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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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ECKERT SEAMANS CHERIN & MELLOTT
600 GRANT STREET
44TH FLOOR
PITTSBURGH, PA 15219

EXAMINER	
RAPP, CHAD	

ART UNIT	PAPER NUMBER
2125	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/761,871	Applicant(s) ELLIOTT ET AL.	
	Examiner Chad Rapp	Art Unit 2125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. Claims 1-36 are presented for examination.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 20, 30 and 31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 20, line 2 "said microelectromechanical system device" should be changed to "a microelectromechanical system device". There is insufficient antecedent basis for this limitation in the claim.

In claim 30, line 2 "the group" should be changed to "a group". There is insufficient antecedent basis for this limitation in the claim.

In claim 31, line 2 "said microelectromechanical system device" should be changed to "a microelectromechanical system device". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-10, 18-19, 21, 24 and 32-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakatani et al. in view of Mickle et al.

Sakatani et al. teaches the claimed invention(claims 1 and 25) substantially as claimed including a method of monitoring operation of an automated tool comprising:

a. Positioning in close proximity to said automated tool at least one wireless sensor is taught as wireless sensors attached to movable shafts of processing machines or the like(abstract);

b. Monitoring at least one condition of said automated tool by sensor is taught as monitoring system used in combination of the wireless sensor(paragraph [0019]);

c. Emitting signals containing sensor information in space to a microprocessor is taught as a communication unit for transmitting by wireless(paragraph [0027]);

d. Processing said sensor information in said microprocessor is taught as a data processing unit for processing data(paragraph [0026]);

e. In the event that the processor determines that said automated tool has departed from desired conditions of operation issuing a responsive signal is taught as the data is judged to exceed the threshold value is added with an alarm signal(paragraph [0196]).

Sakatani et al. teaches the above listed details of the independent claims 1 and 25, however, Sakatani et al. does not teach: energizing said wireless sensor by energy transmitted in space to said sensor.

Mickle et al. teaches :

a. Energizing said wireless sensor by energy transmitted in space to said sensor is taught ad RF power transmitted by base station through the air to the remote station(sensor)(abstract and col. 5 lines 30-31).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Sakatani et al. with the teachings of Mickle et al. because teaches that to reduce the size of the sensors you have to power it remote so it does not have to have its own power supply and the Sakatani et al. is interested in shrinking the size of the sensor.

As to claims 2 and 32, Mickle et al. teaches employing RF energy to energize said sensor is taught ad RF power transmitted by base station through the air to the remote station(sensor)(abstract and col. 5 lines 30-31).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Sakatani et al. with the teachings of Mickle et al. because teaches that to reduce the size of the sensors you have to power it remote so it does not have to have its own power supply and the Sakatani et al. is interested in shrinking the size of the sensor.

As to claim 3, Sakatani et al. teaches emitting signals containing information from said microprocessor to said sensor is taught as a communication unit for transmitting by wireless(paragraph [0027]).

As to claims 4 and 33, Mickle et al. teaches converting said RF energy to DC power for energizing said sensor is taught as converting RF power to DC power(col. 5 lines 61-62).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Sakatani et al. with the teachings of Mickle et al. because teaches that to reduce the size of the sensors you have to power it remote so it does not have to have its own power supply and the Sakatani et al. is interested in shrinking the size of the sensor.

It is also important to be able to convert the power to DC power because that is what the sensor and other electronic uses.

As to claim 5, Sakatani et al. teaches securing said sensor to said automated tool is taught as wireless sensors attached to movable shafts of processing machines or the like(abstract).

As to claims 6 and 36, Sakatani et al. teaches securing said sensor within a recess in said automated tool is taught as attached to recess portions(paragraph [0195]).

As to claims 7 and 34, Mickle et al. teaches said sensor being operatively associated with at least one antenna for simplex power reception and duplex communication of information is taught as the antenna provides a power(simplex) and two-way(duplex) data communication(col. 7 lines 4-5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Sakatani et al. with the teachings of Mickle et al. because teaches that to reduce the size and get the power you need an antenna that can transmit power and send and receive data.

As to claim 8, Mickle et al. teaches said antenna formed on an integrated circuit is taught as a tag integrated circuit(col. 1 line 60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Sakatani et al. with the teachings of Mickle et al. because keeping with the theme to have a small sensing apparatus with its circuitry, the best place for antenna would be on the integrated chip that will be embedded.

As to claim 9, Mickle et al. teaches said antenna secured to a printed circuit board is taught as antenna on a system on a chip(col. 2 lines 45-51).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Sakatani et al. with the teachings of Mickle et al. because keeping with the theme to have a small sensing apparatus with its circuitry, the best place for antenna would be on the printed circuit board that will be embedded.

As to claim 10, Sakatani et al. teaches employing said method to monitor a said automated tool performing an operation on a work piece is taught as accumulating detection data of the wireless sensors of the running conditions of the machinery and equipment(paragraph[0182]).

As to claim 18, Sakatani et al. teaches transmitting said sensor signals to said microprocessor employing an RF carrier is taught as the signal was a radio wave(paragraph [0081)

As to claim 19, Sakatani et al. teaches transmitting said sensor information as digital information is taught as converting analog signal to digital signal([0169]).

As to claim 21, Sakatani et al. teaches transmitting said sensor signals only if a monitored condition departs from a desired threshold value is taught as the data is judged to exceed the threshold value is added with an alarm signal(paragraph [0196]).

As to claim 23, Sakatani et al. teaches selecting said responsive signals from a group consisting of an automated shutdown, alarm signal and data delivery signal is taught as the data is judged to exceed the threshold value is added with an alarm signal(paragraph [0196]).

As to claims 24 and 37, Mickle et al. teaches securing said sensor to said work piece is taught as RFID is attached to the product(col. 9 lines 32-34).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Sakatani et al. with the teachings of Mickle et al. because teaches that to reduce the size of the sensors you have to power it remote so it does not have to have its own power supply and the Sakatani et al. is interested in shrinking the size of the sensor.

As to claim 35, Mickle et al. teaches a sensor assembly including said rectifier, said antenna and said sensor is taught as antenna, sensors and RF to DC converter circuit rectifier(col. 2 line 24, col. 4 line 26 and col. 8 lines 64-66).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Sakatani et al. with the teachings of Mickle et al. because teaches that to reduce the size of the sensors you have to power it remote so it does not have to have its own power supply and the Sakatani et al. is interested in shrinking the size of the sensor.

6. Claims 11-13, 15, 16, 17, 20, 26, 27, 29 ad 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakatani et al. in view of Mickle et al. and further in view of Hamel et al.

Sakatani et al. and Mickle et al. teach the claimed invention see paragraph number 5 above.

As to claims 11 and 26 , Hamel et al. teaches said at least one sensor being in a microelectromechanical system device is taught as microminiaturize, wireless device(paragraph [0012] and paragraph [0015]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Sakatani et al. with the teachings of Hamel et al. because Hamel et al. deals with using remote powering which reduces the size of the sensors and also uses micro miniature and wireless devices such as microelectromechanical devices. These things allow the sensors to be embedded into the devices monitored. The provide tiny, accurate and low power sensing.

As to claims 12 and 27, Sakatani et al. teaches employing a plurality of said sensors in said method is taught as a plurality of wireless sensors(paragraph [0064]).

As to claim 13, Hamel et al. teaches measuring by said microelectromechanical system device at least one motion related characteristic of said automated tool is taught as the miniature wireless device comprises a piezoelectric accelerometer([paragraph [0090]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Sakatani et al. with the teachings of Hamel et al. because Hamel et al. deals with using remote powering which reduces the size of the sensors and also uses micro miniature and wireless devices such as microelectromechanical devices. These things allow the sensors to be embedded into the devices monitored. The provide tiny, accurate and low power sensing.

As to claims 15 and 29, Hamel et al. teaches sensing by microelectromechanical system device characteristics of said automated tool related to forces existing in the operation of said automated tool is taught as monitoring vibration(paragraph [0043]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Sakatani et al. with the teachings of Hamel et al. because Hamel et al. deals with using remote powering which reduces the size of the sensors and also uses micro miniature and wireless devices such as microelectromechanical devices. These things allow the sensors to be embedded into the devices monitored. The provide tiny, accurate and low power sensing.

As to claim 16, Sakatani et al. teaches monitoring said automatic tool properties by said microelectromechanical system device during at least a portion of a cycle of operation of said automated tool is taught as accumulating detection data of the wireless sensors of the running conditions of the machinery and equipment(paragraph[0182]).

As to claims 17 and 31, Sakatani et al. teaches monitoring at least one acceleration related characteristic of said operating automated tool is taught as an acceleration sensor(paragraph[0195]).

As to claim 20, Hamel et al. teaches employing in said microelectromechanical system device an inertial sensor is taught as the miniature wireless device comprises a piezoelectric accelerometer(inertial sensor)([paragraph [0090]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Sakatani et al. with the teachings of Hamel et al. because Hamel et al. deals with using remote powering which reduces the size of the sensors and

also uses micro miniature and wireless devices such as microelectromechanical devices. These things allow the sensors to be embedded into the devices monitored. The provide tiny, accurate and low power sensing.

7. Claims 14, 22, 28 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakatani et al. in view of Mickle et al. and further in view of Fox et al.

Sakatani et al. and Mickle et al. teach the claimed see paragraph number 5 above.

As to claims 14 and 28, Fox et al. teaches employing as said automated tool a progressive stamping press operating on a metal sheet work piece is taught as a progressive stamping die(abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Sakatani et al. with the teachings of Fox et al. because Fox et al. is dealing ways to get rid of the cables and on way Fox et al. discloses is to use non-wired systems(wireless) and wireless is what Sakatani et al. discusses.

As to claim 22, Fox et al. teaches employing said method to monitor misfeed is taught as delivering a messages of misfeed problem(col. 1 line 48-51).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Sakatani et al. with the teachings of Fox et al. because Fox et al. is dealing ways to get rid of the cables and on way Fox et al. discloses is to use non-wired systems(wireless) and wireless is what Sakatani et al. discusses. Misfeed is an important parameter to monitor because it can lead to increase scrap metal.

As to claim 30, Sakatani et al. teaches said microprocessor responsive signals being selected from the group consisting of an automated tool shutdown signal, an alarm signal and a

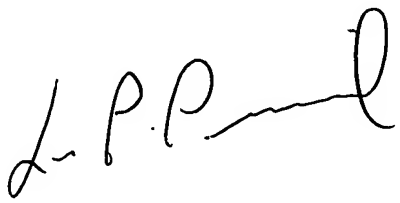
data delivery signal is taught as the data is judged to exceed the threshold value is added with an alarm signal(paragraph [0196]).

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chad Rapp whose telephone number is (571)272-3752. The examiner can normally be reached on Mon-Fri 11:00-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on (571)272-3749. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Chad Rapp
Examiner
Art Unit 2125

Cjr

LEO PICARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100